

State of New Jersey
Board of Public Utilities
Two Gateway Center
Newark, NJ 07102
www.bpu.state.nj.us

BOARD OF PUBLIC UTILITIES - IN THE)
MATTER OF THE COMPREHENSIVE)
RESOURCE ANALYSIS PROPOSAL FOR)
RENEWABLE ENERGY TECHNOLOGY)
PROJECTS IN NEW JERSEY)

ENERGY
ORDER AWARDING
FUNDS

BPU DOCKET NO. EX01100646

(SERVICE LIST ATTACHED)

BY THE BOARD:

Following the Comprehensive Resource Analysis proceeding required by N.J.S.A. 48:3-60(a)(3), on March 9, 2001 the Board issued a Final Decision and Order in Docket Nos. EX99050347, et. al. ("CRA Final Order"), which selected the programs to be funded and the appropriate level of funding for energy efficiency ("EE") programs and Class I renewable energy ("RE") programs to be funded through the Societal Benefits Charge. The Board determined that the RE funding was to be used for customer-sited programs, to be administered by the utilities, and for a competitive incentive program for grid supply energy production, to be administered by the Board. The funding allocated to the grid supply program for 2001, the first-year, was set at \$10,000,000.

At its December 19, 2001 public agenda meeting, the Board approved its first Solicitation for Project Proposals under the grid supply renewable energy program. The Solicitation sought proposals that would provide the maximum installed capacity and energy for the funding to be awarded. Other criteria included promoting a diversity of technologies and maximizing the environmental benefits. The funds to be awarded to successful proposals will include production credits for completed projects on a cents per kilowatt-hour ("¢/kWh") basis for a maximum period of five years. Limited grants for start-up costs, up to 10% of the total amount sought for incentives, will also be considered to facilitate construction of winning projects. The Solicitation stated that as many qualifying proposals as possible within the 2001 funding confines for this Solicitation would be chosen, and that funds not utilized in the 2001 Solicitation would be made available for Solicitation(s) in 2002.

Currently some renewable energy technologies are less able to compete on the basis of cost than others because they may yet be emerging technologies. For the successful implementation of the full intent of the Electric Discount and Energy Competition Act ("the Act"), the Solicitation provided that in fostering these programs, environmental impacts and the need to foster diverse technologies as well as economic cost, viability and production capacity are to be considered when reviewing project proposals. Because acceptance by the surrounding community is very important to the future of renewable energy projects in New Jersey, the Board Solicitation also sought proposals that included plans to address real or perceived

community concerns by minimizing negative environmental impacts and including appropriate involvement of the local community. Eligible technologies for the renewable energy generation ("REG") projects are photovoltaics, wind energy, fuel cells, and methane gas from landfills, as defined in the Solicitation, or a biomass facility, provided that the biomass is cultivated and harvested in a sustainable manner. The Solicitation further provided that technologies selected should be suitable for use in New Jersey's environment and that reliable long-term operation is important, maintenance plans should be effective, and proposals should include payment plans that provide adequate incentives to ensure reliable operation, because the Board expects the projects to operate for a long time after the Board's participation is ended.

As set out in the CRA Final Order, the Board appointed an Advisory Council to assist Board Staff in analyzing the project proposals and making recommendations to the Board concerning the final awards. The selection of the members of the Advisory Council was based on the need for people with a range of qualities, skills and knowledge in renewable energy without any conflict of interest in order to provide strong support to the Grid Supply Renewable Energy Program. The candidates were chosen on the basis of their technical expertise and all are employed by either non-profit organizations, government or universities.

Pursuant to these criteria the Board chose the following persons to be members of the Advisory Council:

Marilyn A. Brown, Ph.D., Director, Energy Efficiency and Renewable Energy Program, Oak Ridge National Laboratory (ORNL), United States Department of Energy (USDOE)

Christy Herig, B.S. Chemical Engineering, Principal Engineer for the National Renewable Energy Laboratory (NREL)

Eric Larson, Ph.D., Research Engineer, Center for Energy & Environmental Studies (CEES), Princeton University

William J. Makofske, Ph.D., Professor of Physics at Ramapo College of New Jersey, teaching energy technology and policy

Lew Milford, Esq., President, Clean Energy Group, a non-profit organization dedicated to increasing the use of clean energy technologies

Frederick W. Weston III, M.A., Principal for the Regulatory Assistance Project (RAP), a non-profit organization which assists utility regulators to develop economically and environmentally sustainable energy policies

The Board received proposals for fourteen renewable energy projects by the Solicitation due date of February 5, 2002.

The following proposals were submitted:

1. Aerospace Research Corporation ("Aerospace") proposed a 12 megawatt ("MW") gas turbine system using solid waste as fuel.
2. GPU Solar, Inc. ("GPU Solar") proposed a 103 kilowatt ("kW") solar photovoltaic system.
3. Community Energy proposed a 7.5 MW wind energy plant.

4. PPL Energy Services proposed a 250kW natural gas fuel cell.
5. Organic Waste Systems proposed a Class I anaerobic digestion of solid waste system.
6. Hoburn Management Corp. ("Hoburn") proposed a 1MW photovoltaic system.
7. Clipper Windpower, Inc. proposed a 21 MW wind energy system.
8. Con Edison Development proposed up to 45 MW of a landfill gas co-firing w/natural gas system.
9. PSEG Energy Technologies ("ET") proposed a 4 MW landfill gas system.
10. Access Energy & Reunion Power ("Access Reunion") proposed a project up to 8 MW using a landfill gas system.
11. Atlantic Renewable Energy Corp. proposed a 90 MW wind energy system.
12. PSEG Energy Technologies ("ET") proposed a 5.6 MW landfill gas system.
13. Select Energy proposed a 600, 800 or 1000 kW fuel cell unit.
14. H Power Corp. proposed a 45 kW fuel cell unit.

The Advisory Council met with Board staff and New Jersey Department of Environmental Protection ("DEP") staff on April 4, 2002 to select the finalists for the Board's review and rank the suitability of the various projects. They were asked, among other requirements, to offer advice in the following areas: allocation of funds among technologies, the projects to fund, and program improvements. The main issues of concern were the viability of the project, the ability of the project developer to bring the generation source on line, the diversity of the technologies selected, the cost of the projects both in total and on a kilowatt and kilowatt-hour basis, location with respect to the need for power, environmental impacts and whether the project proposal was responsive to the requirements of the solicitation.

ADVISORY COUNCIL POSITION

Three projects received the Advisory Council's approval: Community Energy, Clipper Windpower and PPL Energy Services.

The Advisory Council considered two other projects to be viable, but with shortcomings that would need to be addressed. The PSEG Energy Technologies 4 MW project was considered by some Advisory Council members to be commercially viable and not in need of a subsidy. In addition, the pricing would have to be evaluated to see which is more beneficial to ratepayers, since the selection of the second option would require an evaluation of the projected rates available from the grid. Hoburn did not have sufficient solar roof locations reserved by the developer at the time the proposal was submitted. Therefore, progress by the developer would have to be carefully monitored. In particular, contract negotiations with Hoburn would have to set strict guidelines for getting the project on line in a timely manner or State funding would have to be withdrawn. The Advisory Council noted that the selected projects could put the total incentive payments above the \$10 million limit previously established for the 2001 solicitation,

but proposed that this amount be considered flexible, since we are already into 2002 and funding for this solicitation could be considered also as partially for 2002. The council believes that this is preferable to rolling good projects into the next solicitation, which might delay them into 2003.

Four projects met the requirements of the solicitation, but were deemed by the Advisory Council to be inappropriate for funding at this time: PSEG ET 5.6 MW project; the Atlantic Renewable Energy Corp. project; GPU Solar, Inc. project; and the Select Energy project.

DEPARTMENT OF ENVIRONMENTAL PROTECTION POSITION

The DEP's environmental consultant advice, submitted in accordance with N.J.S.A. 48:3-60a(3), included an overall evaluation, scoring and comments on the proposals, which ranked and evaluated all the proposals. The DEP then evaluated the cost per megawatt, cost per megawatt-hour, cost per ton of carbon dioxide (CO₂) reduction as it relates to a cost-effective Green House Gas reduction program, and the overall environmental impacts of five recommended proposals.

The DEP also reviewed the joint initial evaluations and the Advisory Council's evaluations, and supported the following proposals for the Board's further consideration for funding (in no specific order):

- Community Energy (wind)
- Clipper Windpower (wind)
- PPL Energy Services (fuel cell)
- PSEG Energy Technology 4 MW (landfill gas)
- Hoburn Management Corp. (photovoltaic)

The Office of Innovative Technology and Market Development (OITMD) managed this process for DEP. Review and recommendations on the received proposals were also sought from other appropriate DEP technical staff from the Department's Division of Solid and Hazardous Waste, Office of Air Quality Planning, Office of Coastal Planning and Program Coordination, and the New Jersey Geological Survey. The comments from these DEP program areas were also submitted to Board Staff for their review.

Staff Recommendation

Initially Staff noted that although both the Advisory Council and the DEP deemed the PPL Energy Services project to be worthy of consideration for other reasons, funding for natural gas fuel cells has been suspended by the Board, by order dated April 23, 2002 in Docket No. EX01070447. Staff did not, therefore, include PPL Energy Services in its recommendation at this time, pending further action on the fuel cell issue.

After reviewing the project proposals and consulting with the Advisory Council and the DEP, Board Staff recommended that the following four proposals be financed, raising the funding level for the 2001 cycle above \$10 million. These projects include Community Energy, Clipper Windpower, the PSEG Energy Technology 4 MW proposal and the Hoburn project. Staff recommended that the Board should exceed the year one level of funding under the CRA Order, since we are already 6 months into 2002. If the limit is not raised, then the Board Staff recommended funding in this order: Community Energy, Clipper Windpower and the PSEG

Energy Technology 4 MW project for a total of \$8.7 million. If the limit is raised, then Staff recommended that the Hoburn project should be included, to bring the total commitment to \$11.3 million.

The Board Staff, after review of the project information, further agreed with the Advisory Council with respect to two projects discussed above, Community Energy and Clipper Windpower and recommended that these be approved without condition for a maximum total commitment of approximately \$4.8 million. The Board Staff further believes that two projects should be conditionally approved:

1. The award to the PSEG Technologies 4 MW project should be conditioned on the determination of the pricing level before a contract can be signed.
2. The award to the Hoburn project should be conditioned on having specific milestones established whereby further funding will depend on the developer meeting such milestones.

Board Staff also agreed with the DEP that, although the 90 MW Atlantic Renewable Energy wind project offshore at Barnegat Inlet is not ready for funding at this time, this project represents the most cost effective acquisition of renewable energy capacity and avoided CO2 emissions. Staff therefore recommended that market transformation funding should be used to fully examine the feasibility of this project in a more detailed manner before committing grid supply funds, and that funds from the Market Infrastructure Development program account, as established by the CRA Final Order, be used as a means of subsidizing further development of the feasibility of the Atlantic Renewable Energy Corporation proposal.

Findings and Conclusion

The Board has carefully reviewed the submitted proposals and the recommendation and analyses of Board Staff, and the recommendations of the Advisory Council and the DEP and has determined to award funds from CRA funds set aside for renewable energy projects to the following projects in the amounts requested, subject to the conditions listed below and to be incorporated into individual agreements to be entered into with the Board.

The Board agrees with the recommendation of Staff and the Advisory Council that the total funding to be awarded should be increased to \$11.3 million for the 2001 cycle to cover the four projects recommended and that the feasibility of the Atlantic Renewable Energy project should be explored further. All of the awarded amounts are subject to terms and conditions to be set out in contracts with the Board.

The Board therefore ORDERS:

1. Community Energy is awarded a production incentive of 2.9¢ per kilowatt-hour over a period of five years for a total of \$1.7 million.
2. Clipper Windpower is awarded \$140,000 upfront and a production incentive of 1.2¢ per kilowatt-hour over a period of five years for a total of \$3.1 million.
3. The PSEG ET 4MW project is awarded approximately \$3.9 million subject to a comparison of the two pricing options proposed. The first is a fixed 2.9¢ per kilowatt-hour option on which the \$3.9 million is based. The second option is 5.93¢ per kilowatt-hour

minus the locational marginal price for energy and capacity market clearing price which depending upon energy and capacity price forecasts could be less. The awarded incentive will be the lower of these two amounts.

4. Hoburn is awarded upfront \$255,000 and 29¢ per kilowatt-hour over five years for a total of \$2.6 million subject to meeting milestones to be agreed to in the contract.
5. Atlantic Renewable Energy is awarded \$300,000 from the Market Infrastructure Development account.

DATED: July 15, 2002

BOARD OF PUBLIC UTILITIES
BY:

(SIGNED)
JEANNE M. FOX
PRESIDENT

(SIGNED)
FREDERICK F. BUTLER
COMMISSIONER

(SIGNED)
CAROL J. MURPHY
COMMISSIONER

(SIGNED)
CONNIE O. HUGHES
COMMISSIONER

ATTEST:

(SIGNED)
KRISTI IZZO
BOARD SECRETARY